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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/798,548

03/10/2004

Seung-hwan Moon

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6388

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10/06/2006

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EXAMINER

REHM, ADAM C

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/798,548	MOON, SEUNG-HWAN	
	Examiner	Art Unit	
	Adam C. Rehm	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1, 4 and 8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant asserts "rod shaped" electrode connectors were disclosed in Figure 3. However, Figure 3 is a top view of the connectors and do not provide sufficient detail or dimension to conclude that the connectors are rod-shaped as opposed to flat, both of which are common electrode designs. Therefore, the limitation is considered new matter. Further, Claims dependent on the above rejected independent Claims are also indefinite: Claims 2, 3, 5-7, 9 and 10.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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2. Claims 1-2, 4-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by MOON (US 6,798,150), which discloses a backlight for directing light to an LCD panel (Column 5, Lines 24-51) comprising:

- First and second lamp groups including a plurality of alternately-arranged lamps (50, Fig. 5 illustrates two columns of lamps with the left column a first group and the second column a second group);
- First and third electrode means electrically connected to both electrodes of each of the lamps constituting the first lamp group (53a and 53b, first column);
- Second and fourth external electrode means electrically connected to both electrodes of each of the lamps constituting the second lamp group (53a and 53b, second column); and
- First and second inverters for first and second groups (55, Fig. 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOON (US 6,798,150). MOON discloses the invention as claimed, but does not specifically disclose a phase difference in voltage output from the first and second inverters to be less than 90 degrees. However, it has been held that where the

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conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233, 235. The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine...the optimum combination. *In re Hoeschele*, 160 USPQ 809. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify MOON and use first and second inverters with phase differences of less than 90 degrees in order to provide an optimum range for superior LCD performance.

4. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOON (US 6,798,150) as applied above and further in view of KWON ET AL. (US 5,953,003). MOON discloses the claimed invention, but does not specifically disclose an LCD comprised of a gate-driving unit for sequentially applying a gate-on signal to gate lines and a data-driving unit for applying a data signal to data lines. However, KWON teaches an LCD having a gate driving circuit for sequentially applying a signal to a plurality of gate lines to drive them and a data driving circuit for applying a signal to data lines for the purpose of holding data and then transmitting it (Column 2, Line 54-Column 3, Line 10). It would have been obvious to one of ordinary skill in the art at the time of invention to modify MOON and use the gate and data driving circuits as taught by KWON in order to hold data and transmit data.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over MOON (US 6,798,150) and KWON ET AL. (US 5,953,003). MOON and KWON disclose the invention as claimed, but do not specifically disclose a phase difference in voltage

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output from the first and second inverters to be less than 90 degrees. However, it has been held that where the conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233, 235. The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine...the optimum combination. *In re Hoeschele*, 160 USPQ 809. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify MOON and use first and second inverters with phase differences of less than 90 degrees in order to provide an optimum range for superior LCD performance.

Response to Arguments

6. Applicant's arguments have been fully considered but they are not persuasive.
7. Applicant's arguments for patentability are based solely on newly added claim language identifying the electrode connectors as rod shaped. Given the shape of the connectors were not previously disclosed, such is considered new matter and omission is required. Notably, even if the shape of the connectors were not deemed to be new matter, Applicant has not identified why the shape of the connectors solves any stated problems or is for any particular purpose. It appears as though the invention would perform equally well with the prior art connectors. Even further, more than mere change of shape is necessary for patentability with the change in form of any element of prior patent resulting in more than useful natural phenomenon that man has accumulated through common knowledge. *Span-Deck Inc. v. Fab-Con. Inc.*, 215 USPQ 835.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam C. Rehm whose telephone number is 571.272.8589. The examiner can normally be reached on M-F 9-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571.272.2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ACR
9/25/2006

A handwritten signature in black ink, appearing to read 'Th M Sember', with a long horizontal line extending to the right.

THOMAS M. SEMBER
PRIMARY EXAMINER